What is claimed is:

1. A projecting optical system, comprising:

a lamp for irradiating light;

a color divider for dividing colors of light irradiated from the lamp;

a illumination mixer for irradiating the light with equal light intensity;

a channel-changing prism for changing a channel of light irradiated from the illumination mixer to upward and downward; and

a TIR prism for changing a direction and angle of light to a predetermined direction and angle.

2. The projecting optical system of claim 1, further comprising a reflective mirror for changing the channel of light such that the light irradiated from the lamp is entered into the color divider.

3. The projecting optical system of claim 1, wherein at least one first illumination lens and second illumination lens for controlling the intensity of light are provided between the channel-changing prism.

4. The projecting optical system of claim 1, wherein the color divider comprises a plurality of optical means formed in a disk or cylindrical form and rotatably provided for selectively transmitting or reflecting a color.

5. The projecting optical system of claim 1, wherein the channel-changing prism is rotatably provided for controlling step difference of incidence light.

6. The projecting optical system of claim 1, wherein the channel-changing prism comprises a distance between an axis of incidence light and an axis of emission light.

7. The projecting optical system of claim 1, wherein the channel-changing prism is rotatably provided for controlling the step difference of emission light.

8. A projecting optical system, wherein a projector having a DMD panel comprises:

a lamp for generating light;

a color divider for dividing colors of light irradiated from the lamp;

a illumination mixer for irradiating the light with equal light intensity;

a channel-changing prism for changing a channel of light irradiated from the illumination mixer to upward and downward; and

a TIR prism for changing a direction and angle of light to a predetermined direction and angle of light.

9. The projecting optical system of claim 8, further comprising a reflective mirror for changing the channel of light such that the light irradiated from the lamp is entered into the color divider.

10. The projecting optical system of claim 8, wherein at least one first illumination lens and second illumination lens for controlling the intensity of light are provided between the channel-changing prism.

11. The projecting optical system of claim 8, wherein the color divider comprises a plurality of optical means formed in a disk or cylindrical form and rotatably provided for selectively transmitting or reflecting a color.

12. The projecting optical system of claim 8, wherein the channel-changing prism comprises a distance between an axis of incidence light and an axis of emission light.

13. The projecting optical system of claim 8, wherein the channel-changing prism comprises a distance between an axis of incidence light and an axis of emission light.

14. The projecting optical system of claim 8, wherein the channel-changing prism is rotatably provided for controlling step difference of emission light.

15. The projecting optical system of claim 8, wherein the TIR prism is inclined at a predetermined angle vertically and horizontally for maintaining the predetermined incidence angle of light required by the DMD panel.